

## **Chapter V**

# **Industrial Environmental Management**

### **Overview**

Although the industrial sector of Baja California is not as well developed as in some other parts of Mexico, there are still opportunities for export of products and services to improve industrial environmental management and energy efficiency. Increased enforcement activity and other programs, like *Industria Limpia* (Clean Industry), that provide incentives for pollution prevention create a demand for Environmental Management Systems (EMS) and develop the market for pollution control goods and services. Environmental training programs offered by several organizations in Baja California can also generate demand for pollution prevention products. The industrial base of Baja California Sur is very limited and thus presents only modest opportunities for California exporters.

### **Energy Efficiency**

While energy costs were not much of a problem for local businesses in Baja California in the past, energy costs have been rising rapidly. Thus, conservation is providing new market opportunities for environmental consultants. A significant concern of companies in Mexicali, in particular, is how to survive the higher energy rate charges that are being applied.<sup>1</sup> Currently, the industrial sector consumes approximately 60 percent of total electrical energy in Mexico.<sup>2</sup> Although Baja California officials have attempted to offset the increase in electricity rates with subsidies, funds are limited. The Fox Administration has made energy efficiency and savings a high priority objective in its Energy Sector Program (Programa Sectorial de Energía 2001–2006).<sup>3</sup> An example of a government initiative to create incentives for conservation is the Trust Fund for Electrical Energy Savings (Fideicomiso para el Ahorro de Energía Eléctrica–FIDE). Although FIDE is a private, nonprofit organization, it was created through

an initiative of the Federal Electricity Commission (Comisión Federal de Electricidad–CFE). FIDE administers the following programs:

- **Energy savings programs for industrial consumers of energy.** By providing access to financing and conducting energy-efficiency audits, this program promotes the replacement of equipment that uses more energy than necessary (e.g., motors, air compressors, chillers, air conditioning, etc.). The program also examines industrial processes to find opportunities for substituting more energy-efficient techniques in the textile, brewery, bottling, chemical, automotive, metallurgy, cement, and construction sectors, to name some examples.
- **Large-scale programs** to replace incandescent bulbs with fluorescents and improve efficiency of air conditioning systems. The goal is to substitute 1.5 million incandescent light bulbs with compact fluorescent bulbs by providing credits to domestic users on their energy bills. The incentives for improving the efficiency of air conditioning systems include similar credit mechanisms.
- **Market Development and Incentives Program.** This program is financed through an Interamerican Development Bank grant, which provides US\$23.4 million or half of the total budget.<sup>4</sup> The goal of this program is to increase the use of tri-phasic induction electric motors (of 5 to 500 HP) and energy-efficient commercial lighting (including linear T-8 lights, low loss ballasts, and energy-efficient compressors). The program uses economic incentives to reward purchasers of energy-efficient equipment. It also reaches out and provides training for distributors and users in order to increase awareness of the benefits of using this equipment and replacing inefficient equipment. Replacement of motors has been especially effective, since they consume over 70 percent of electricity in the industrial sector in Mexico.
- **Training and Education.** FIDE coordinates with trade associations and higher education institutions to provide about 150 courses and workshops per year, as well as distributing audiovisual and multimedia materials. It also has developed a program for changing cultural awareness on energy efficiency, known by the Spanish acronym of EDUCAREE (or Educación para el Ahorro y Uso Racional de la Energía Eléctrica). This program targets students in grade school and high school. Educational materials are developed for students and their families. FIDE also provides permanent installations at children's museums and science and technology centers in Mexico.
- **Standardization and Labeling of Energy Efficient Products.** FIDE supports recognition programs and the developing of standards for energy-efficient products. In particular, FIDE administers the "Sello

FIDE” label, which informs consumers that certain products are, in fact, energy efficient.

FIDE has also worked with hotels, office buildings, industry, and shopping centers to replace air conditioning equipment with replacements that use refrigerants that do not contribute to global warming. Despite the incentives provided by some of these programs, a majority of FIDE’s clients are motivated by cost-savings. For more information about FIDE, please visit its web site at: <[www.fide.org.mx](http://www.fide.org.mx)>.

### **Environmental Management Systems and Other Voluntary Industry Programs**

The demand for Environmental Management Systems (EMS) is usually motivated by the same cost-saving impetus, although in the case of larger companies, market demand can be a factor. Because the industries in Baja California and Baja California Sur are low-impact relative to other industries, ISO 14001 certification is not widespread in industry. The president of CANACINTRA in Mexicali estimates that only 5 percent of their members are ISO 14001-certified or is in the process of obtaining such certification.<sup>5</sup> Even though some large U.S. and Japanese *maquiladoras* have attained certification, smaller organizations have remained uninterested in programs that emphasize continuous improvement. Most companies have been focused on legal compliance and nothing more.<sup>6</sup> For those who are interested in developing an EMS and attaining ISO 14001 certification, it is difficult to find a consultant and registered Mexican auditor located in Baja California.<sup>7</sup> Paying for the auditor to fly in from Mexico City increases the costs of the certification process and constitutes a disincentive for companies. As such, consultants and auditors in Southern California could have an advantage in this arena.

The Mexican government is seeking to remedy this problem by recruiting more accredited environmental auditors. On March 27, 2002, the government of Mexico released a call for environmental auditors. To participate, one must be accredited and approved by the Mexican Accreditation Entity (EMA), which

certifies that an auditor is qualified to carry out environmental audits according to Mexican law.<sup>8</sup> After being accredited, the auditor must then obtain approval from the Secretariat of the Environment. There are several documentation requirements for accreditation.

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### ***Industria Limpia***

Industria Limpia, or Clean Industry, has a higher profile than ISO 14001 because it focuses on legal compliance and provides a mechanism for reducing enforcement actions and other regulatory burdens. Recognizing that the enforcement agency had few resources and that funding would be spent best if used to attack the most egregious environmental offenses, the office of the Federal Attorney for Environmental Protection (PROFEPA) developed a voluntary industrial auditing program for industry. Under the program, plants with the *Industria Limpia* certification benefit by being subject to fewer inspections for as long as the company appears to be conforming to the action plan agreed upon by the facility and PROFEPA inspector.

The reduced number of inspections enables regulators to target resources in bringing heavy polluters into compliance, ultimately with greater benefits to the environment. The program has been successful in promoting economic savings for companies, reducing accidents, promoting technological improvements, and increasing environmental services such as recycling and waste reduction. Currently, PROFEPA officials are evaluating possibilities for improving the program by raising its profile and increasing its credibility. To do so, the Fox administration's PROFEPA proposes re-launching the program under a new name, implementing performance indicators to measure the program's

effectiveness, and ensuring that more information becomes publicly available. To bolster the credibility of the system, PROFEPA is improving the certification process for program auditors. Other reforms of the program involve expansion to include economic sectors in addition to manufacturing, such as services, hospitals, and public agencies. PROFEPA officials are also considering ways to incorporate international instruments like ISO 14001 to make the program more seamless for companies that are already ISO 14001-certified.

### ***Trade Associations and Programs***

In February 2002, CANACINTRA in Mexicali and PROFEPA signed a formal agreement to help chamber members with environmental problems and to increase communication with regulators through the creation of the Regional Center for Environmental Administration for the Business Sector (Centro Regional de Apoyo de Gestión Ambiental para el Sector Empresarial—CRAGASE).<sup>9</sup> CRAGASE will be located in the CANACINTRA Mexicali building and is funded by member fees. In addition to promoting PROFEPA's environmental auditing program, CRAGASE will focus on small- and medium-sized companies, which is a shift from past efforts.<sup>10</sup>

### **Enforcement Activities**

Because of the emphasis on legal compliance rather than continuous improvement, the best market prospects are tied to enforcement activities of PROFEPA, the federal enforcement agency, and, in some cases, the state and municipal agencies. Decentralization will increase the role of state and municipal agencies in the future. In 2001, PROFEPA Baja California levied nearly US\$2 million in fines for violations of environmental laws and approximately 60–70 percent of these took place in Tijuana.<sup>11</sup> PROFEPA also closed nine facilities in 2001 for noncompliance with Mexican law. Baja California's General Directorate of Ecology has also increased its enforcement activities despite a limited staff of eight inspectors.<sup>8</sup> Both PROFEPA and DGE have also increased their community outreach, giving them access to community complaints—an effective source of

surveillance information for enforcers. It is important to note that the *maquiladora* industry is not the only focus of environmental enforcement in Baja California. Mining facilities, maritime zones, and other natural resource areas are also of high priority.

## References

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- <sup>3</sup> Urteaga Dufour 2002.
- <sup>4</sup> Urteaga Dufour 2002.
- <sup>5</sup> Bonfante 2002.
- <sup>6</sup> Ruíz Padilla, Alfonso. 2002. Interview by IRSC staff. CANACINTRA, Tijuana, Baja California, Mexico.
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- <sup>9</sup> Delgadillo, Daniel. 2002. Interview by IRSC staff. CANACINTRA Mexicali, Baja California, Mexico.
- <sup>10</sup> Delgadillo 2002.
- <sup>11</sup> Alvarez, Alejandro. 2002. Interview by IRSC staff. PROFEPA, Mexicali, Baja California, Mexico.
- <sup>12</sup> Manuel Lomelí, Jesús. 2002. "Industrias clausuradas por daño al ambiente." *Frontera.info*. (cited 2 April). <http://www.fronteratij.com.mx>